

On page 7, replace the paragraph spanning lines 9-10 with the following rewritten paragraph:

a²
-- Fig. 3A, B, C, D, and E are schematic illustrations of a process employed to fabricate an alternative substrate in accordance with an embodiment of the present invention;--

On page 8, replace the paragraph spanning lines 14-27 with the following rewritten paragraph:

a³
--According to the present invention, an alternative substrate has a base layer and a thin film layer physically bonded to the substrate. Two basic approaches to providing an alternative substrate for defect-free (or reduced defect) epitaxial growth are disclosed herein: the *floating substrate approach* and the *relaxed substrate approach*, which are described in further detail below. Depending on the approach employed, the adaptive thin film layer either (a) has a lattice constant different from that of the target epi material system, but with a sufficient degree of lattice flexibility during epitaxial growth of the target material system, due to the presence of a floating interfacial bonding layer, to permit the lattice constant of the adaptive thin film layer to adjust to that of the target system, thereby providing lattice match and reducing lattice mismatch threading dislocations; or (b) the thin film layer, which is initially strained and has lattice mismatch with the target material system, has its in-surface lattice constant adjusted by relaxation before epi growth so that it has a lattice constant very close to that of the target material system. In the second approach, the thin film layer may be bonded to a base layer with or without an interfacial bonding layer, in alternative embodiments.--

On page 11, replace the paragraph spanning lines 11-15 with the following rewritten paragraph:

04
--Substrate or base layer 21 can be formed from any commercially available high quality substrate material, such as Si, GaAs, InP, GaP, or the like. However, the thin film adaptive layer 22 can be made from either the same material or a variety of other materials as the base layer 21. Thin adaptive layer 22 is preferably a semiconductor layer to facilitate growth thereon of semiconductor based epi layers and devices in epi layer 24.--

On page 15, replace the paragraph spanning lines 3-13 with the following rewritten paragraph:

05
--In one embodiment, the result shown in Fig. 4C may be used as an alternative substrate, after appropriate treating of the top (exposed) surface of thin adaptive layer 403. In this case, carrier substrate 400 serves as the support. However, preferably, thin adaptive layer 403 is bonded to a new (third), bulk material support substrate 410, as shown in Fig. 4D. In this embodiment, thin adaptive layer 403 is bonded to a new bulk substrate 410, which can be a prior art semiconductor substrate or a dielectric crystal substrate that has a thermal expansion coefficient very close to that of the thin adaptive layer 403 (to reduce fracturing or damage during heating). The final step is to remove the carrier substrate 400 and bonding layer 406. This may be done by chemical etching, or by mechanical removal by melting the bonding layer 406. The exposed surface of thin adaptive layer 403, after layers 400 and 406 are removed, may then be suitably treated to permit epitaxial growth thereon of the target material system.--

IN THE DRAWINGS

Please amend Figs. 1-5 as illustrated in red ink in the accompanying Transmittal of Corrected Drawing(s) filed herewith, pursuant to MPEP §§ 608.02(r).

IN THE CLAIMS

Please cancel claims 16-34 and 37-38.